Plans to support cloud migration

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2017 GHRC User Working Group Meeting
Sept 26-27, 2017

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Cumulus

- Lightweight, cloud-native framework for data ingest, archive, distribution and management
- Goals:
  - Provide core DAAC functionality in a configurable manner
    - Data acquisition
    - Data ingest (Validation, Preprocessing)
    - Metadata harvesting ,creation, publication into the catalog
    - Data archiving and distribution
    - Metrics publication
    - Enable DAACs to help each other with re-usable components
    - Enable DAAC-specific customizations
- Timeline:
    - Completion of prototype phase – FY17
    - Start of transition phase - FY18

Cumulus Prototype – GHRC Participation

- Phase 1: 06/2016-10/2016
  - Provided data streams for HS3 Field Campaign and AMSR2 datasets
  - Interacted closely with Cumulus development team
  - Developed test plan
  - Tested Cumulus for HS3 data streams

- Phase 3: 06/2017-09/2017
  - Developed metrics prototype
  - Developed transition framework document
  - Tested Cumulus for AMSR2 data streams

FY18 Planned Activities

- Continued support for Cumulus test efforts
- GHRC Data migration to cloud
- Cumulus Metrics Prototype
- Continuous Integration for NGAP

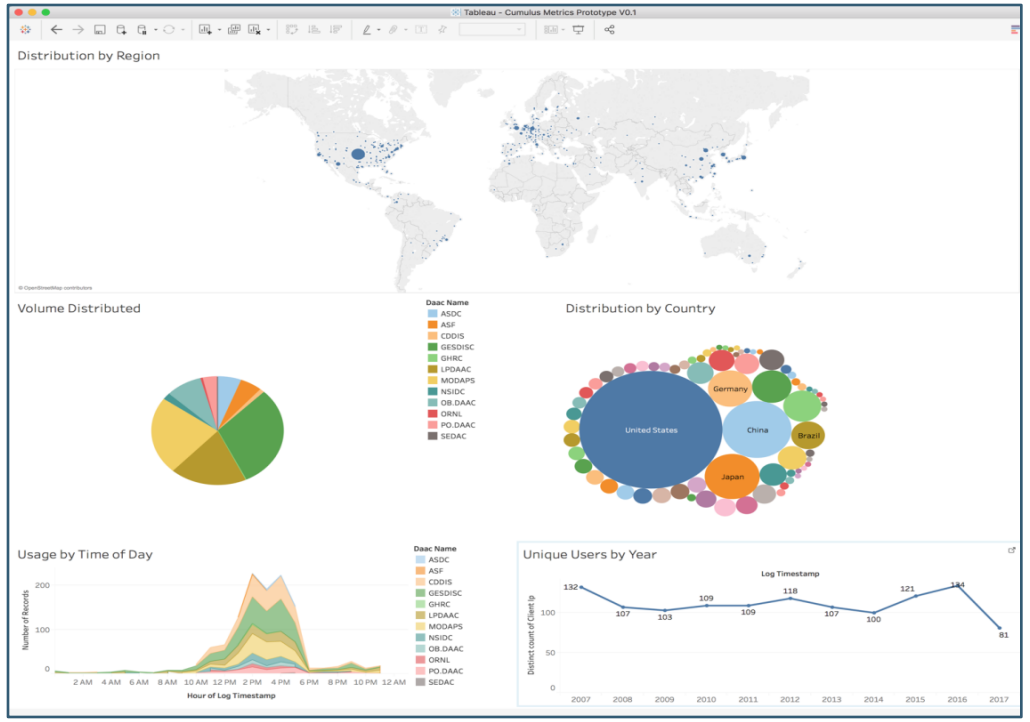
NGAP is the NASA General Application Platform. It provides cloud-based Platform-as-a-Service (PaaS) and Infrastructure-as-a-Service (IaaS) for ESDIS applications, services, and data.

Cumulus Metrics Prototype

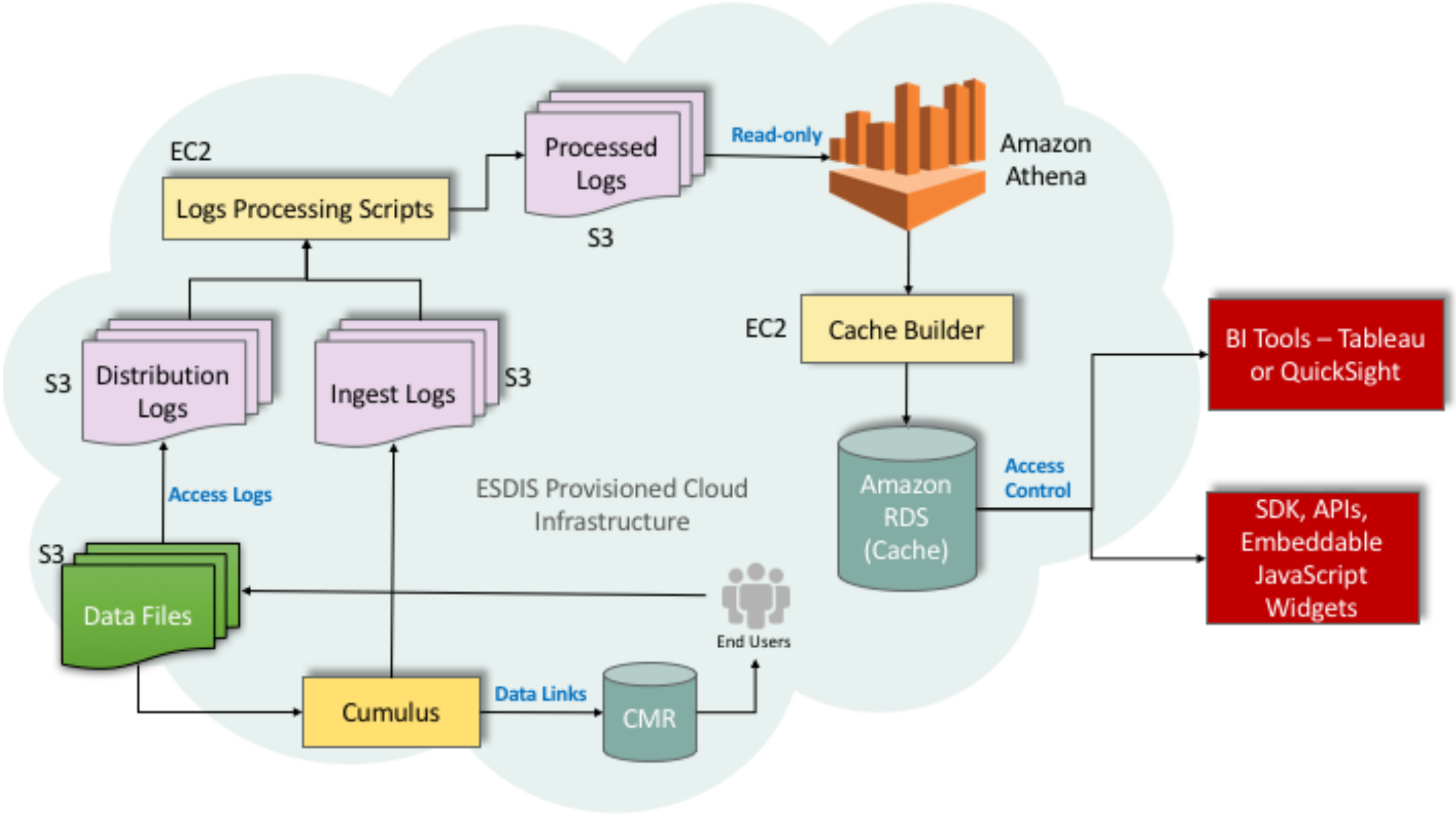
Objective:

Develop a cloud-native, scalable, cost effective metrics system for Cumulus

- Implemented a prototype using AWS Athena + Tableau
- Utilized EMS-style files



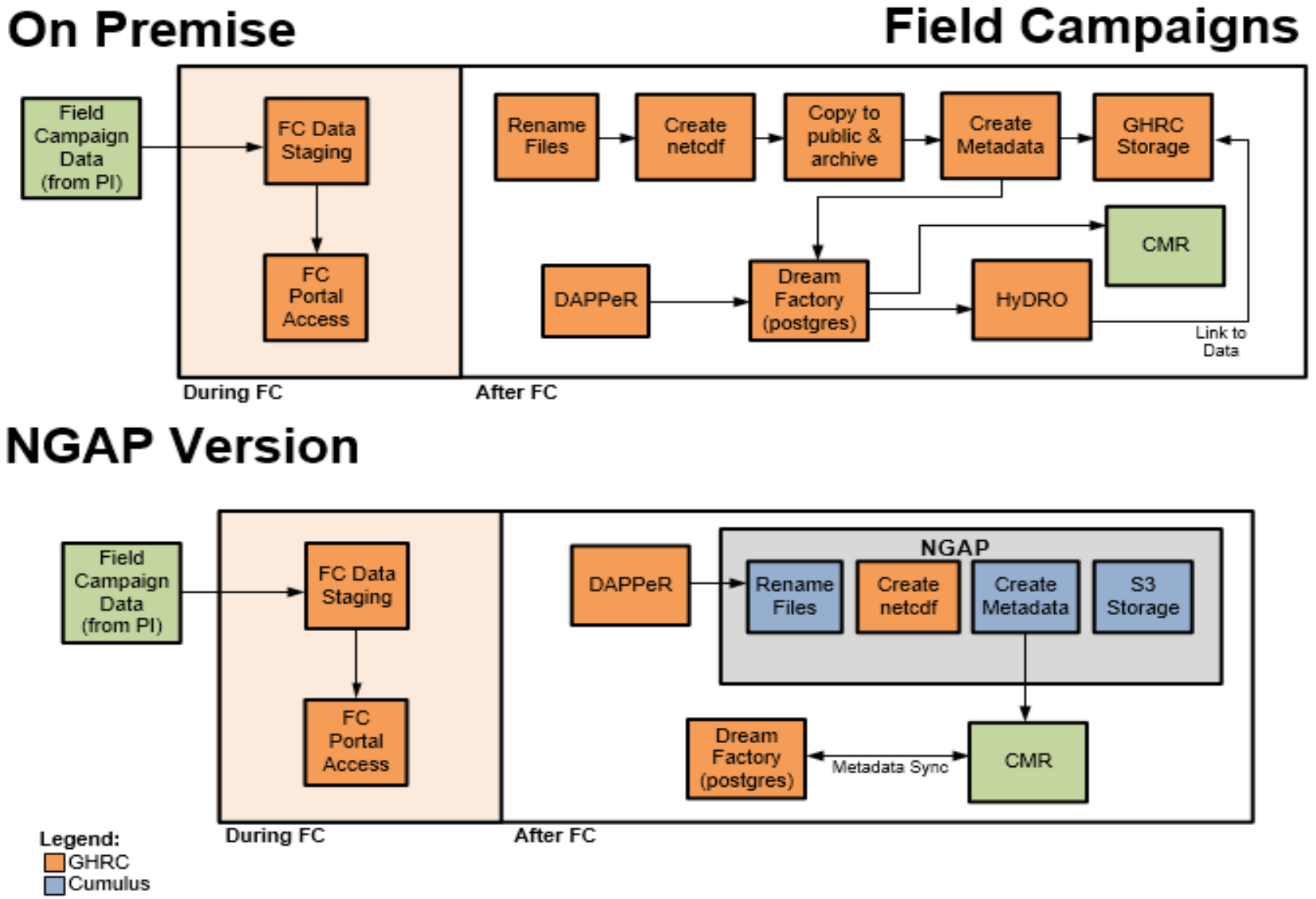
Cumulus Metrics Prototype



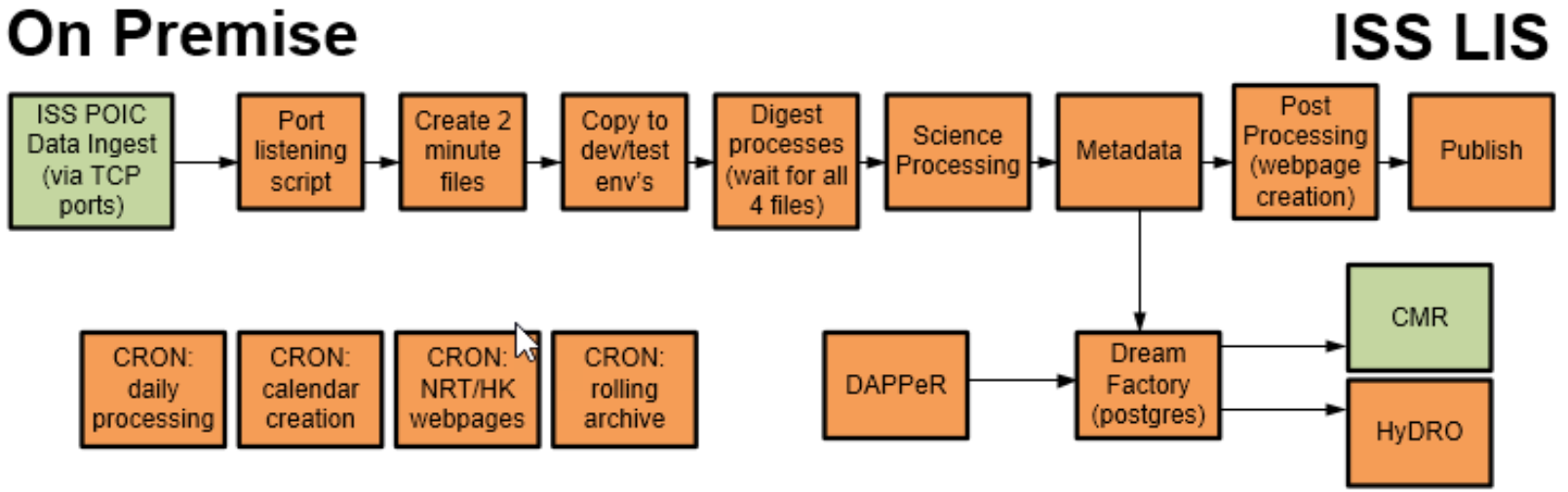
GHRC Data Migration to Cloud

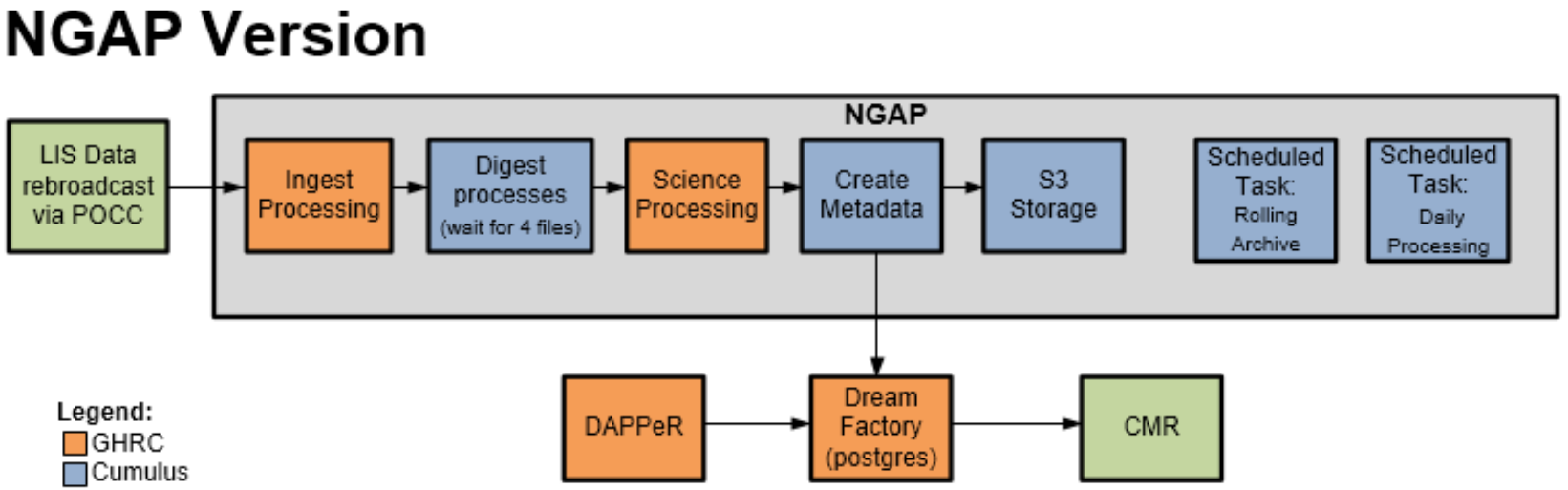
- Move all data to cloud – FY18
  - AWS Glacier is already used for offsite backup
- Use Cumulus for all forward processing
- Adapt tools to use Cumulus APIs
- Train staff to operate and develop on NGAP
- Develop a migration process document

Forward processing for Field Campaign Datasets



Forward processing for Real-Time Datasets





Discussion

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